

Meteors, eclipse will highlight December skies

December has several highlights in 1991.

Two meteor showers, one of which is the among the year's best. Mercury puts in its best appearance for 1991 in the morning sky.

A partial eclipse of the moon.

The amount of sunlight we receive really bottoms out this month. On Dec. 1 the sun rises at 7:42 a.m. and sets at 5:01 p.m. This allows for nine hours and 19 minutes of sunshine. On the 31st, these times are 8:02 a.m. and 5:10 p.m., allowing for nine hours and eight minutes of sun. The least amount actually occurs on the 31st, when we see only nine hours and five minutes of sunlight.

All five of the naked-eye planets will be visible, though Mars will be difficult. Mercury, Venus, Mars and Jupiter are morning objects; Saturn is visible after sunset. Look for the moon, high in the southeast, on the morning of the 1st. The brilliant star 14 degrees to the left of the moon is Venus. Four degrees to the right of Venus, below a line drawn to the moon, is the star

Spica (SPY ca) in Virgo. On the following morning, the moon has shifted considerably; it is six degrees below Spica. Make a note of the relative positions of Venus, Spica and the moon. The moon will pass through this part of the sky again at the end of the month.

The star 8 degrees to the left of the moon on the morning of the 3rd is named Alpha Librae. It is the brightest star in the constellation of Libra the scales, so it is given the first letter of the Greek alphabet as its name. The second brightest star in a constellation gets the second letter, and so on.

Well, to be perfectly honest, it turns out that Beta Librae is actually slightly brighter than Alpha, but only by 0.14 magnitude. (Not a whole heck of a lot!) Did the Ancient Greek astronomer Eratosthenes make an error when he assigned the letters of the alphabet? Did Alpha get dimmer over the centuries? Did Beta get brighter? The controversy continues to rage on today.

Alpha Librae also goes by the Arabic name Zuben el Genubi (ZOO ben



skywatch

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el gen YOU be), which means "the Southern Claw."

ORIGINALLY THIS STAR was part of Scorpius the scorpion, the neighboring constellation to the left, but the Scorpion's claws were severed in antiquity and Zuben el Genubi ended up in a new pattern that was called Libra. Venus will pass above Alpha Librae in two weeks.

New Moon occurs at 10:56 p.m. on Dec. 5. The moon is located between the earth and the sun and is not visible. It will appear in the evening sky in just two days.

The planet Mercury is located at inferior conjunction on the 8th. It is located between the earth and the

sun and is not visible. Mercury becomes a morning object and will be very well placed for viewing in eight days.

Saturn is easy to identify on the evening of the 9th. It's the "star" six degrees to the left of the crescent moon. On the following night the moon is six degrees above and to the left of Saturn.

One of the year's best meteor showers, the Geminids (GEM in ids), reaches its peak on the morning of Dec. 14. Meteor showers are named for the constellation from which

they appear to radiate, in this case Gemini.

Meteors are more commonly known as "falling stars" because they look like little stars falling from the sky. Some American Indians thought they were stars running from danger. But they have nothing to do with stars; meteors are rocks falling out of the sky.

Out in space there are rocks, stones, grains of dust, and other junk tumbling around. If one of these objects falls into our atmosphere it heats up because of friction, burns and gives off light. A patient skywatcher can expect to see a few sporadic (occasional) meteors any clear night.

Many of these meteors are orbiting around the sun in well-defined orbits. They may be trailing along as the debris of a comet, or they may be the remains of a comet that distinguished long ago. When the earth

passes through the orbit of a meteor swarm, many more meteors than usual can be seen, and we can predict precisely when that happens.

THE GEMINID SWARM is one of the best. A patient observer can expect to see an average of 50 meteors every hour, which is about one every minute. The best meteor display occurs between 2 a.m. and sunrise. Gemini rises in the east northeast around 7 p.m., is nearly overhead at 2 a.m. and has moved to the west by sunrise. Although the Geminids can appear in any part of the sky, their trails can be traced back to Gemini.

The moon is at first quarter phase at 4:32 a.m. on Dec. 14. It is one-quarter of its way around the earth. The moon sets at 1:35 a.m., so its light will not interfere with the Geminid shower this year.

Look for Mercury, 25 degrees to the lower left of Venus, on the morning of Dec. 17. Mercury is about 8 degrees (16 Full Moon diameters) above the southeast horizon. Use binoculars and look about 45 minutes before sunrise. Mercury will be very well placed for viewing for the rest of the month.

Raymond Bullock is former coordinator of the planetarium and observatory of the Cranbrook Institute of Science, Bloomfield Hills. Now he works for a Troy firm specializing in laser displays and effects.

Winter hours for Detroit Zoo

Although temperatures have already dropped, Detroit Zoo visitors will keep warm during the colder months as they stop by the zoo's many heated, indoor exhibits.

With just a short walk between them, the Reptile House, the Bird House and the Penguinarium are all climate-controlled exhibits. In addition, the Chimps of Harambee exhib-

it, the Barnyard and the Lion, Elephant and Hippo houses have indoor viewing.

The Detroit Zoo is at Woodward and 10 Mile Road in Royal Oak. Winter zoo hours are 10 a.m. to 4 p.m. Wednesday-Sunday. The new schedule began Nov. 1. For more information, call 313-398-0900.



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November 28 - December 17
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ART
"A Visual Feast!"
GALLERY CRAWL
Art galleries throughout the city are linked together by shuttles for this special evening.
34 Exhibitions - Shuttles Every 15 Minutes - Castle Gallery Visit
Unique Gift Ideas - Amazing Art Exhibits - Live Music
December 6 5 - 10 p.m. Detroit Council of the Arts 224-2053
\$5 Admission Fee in Advance (thru 12/5/91)
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SONG
"This One Has It All!"
NOEL NIGHT
More than 15 area institutions in the Cultural Center join together for an evening of holiday merriment. Stroll from site to site, then stop mid-Avenue for the holiday sing-along. (Woodward Avenue will be closed to traffic.)
Each site offers a unique experience you won't forget. - Kwanzaa Celebration at the Museum of African American History. - An old fashioned Christmas at the Historical Museum. - Chorus, carriage rides, face painting and much more.
December 4 6 - 9:30 p.m. Detroit Cultural Center
University Cultural Center Association 577-5088

CARING
HELPING THE HOMELESS
Don't forget to lend a hand to those in need this holiday season. Bring a canned food donation to the nearest Detroit police precinct, fire station, or Cobo Center, from 7 a.m. to 7 p.m., seven days a week. Or, drop your donation off at any Neighborhood City Hall from 9 a.m. to 4 p.m.
24-Hour Hotline 267-6823

SEASONS GREETINGS
From the City of Detroit
COLEMAN A. YOUNG, MAYOR
Department of Public Information

Have an Old Fashioned Holiday Without The Old Fashioned ...When You Drive

Make this holiday one you can look back on with fond memories.
Don't Drink and Drive
This holiday season, The Observer & Eccentric Newspapers and the automotive dealerships in our area are working together with Mothers Against Drunk Driving to help change the meaning of "Tie One On".
Tying a red ribbon to your vehicle's door handle, sideview mirror or antenna seems a simple thing, but it serves as an instant reminder that if you drink, please don't drive.
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Tell them you're glad they care.

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Bill Cook Automotive Group 37901 Grand River Ave.	Art Morais Pontiac-GMC 29300 Telegraph	Blackwell Ford 11011 Plymouth Rd
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Sunshine Acura 34980 Grand River	Joe Panlan Chevrolet 28111 Telegraph	Dick Scott Buick 200 W. Ann Arbor Rd
Town & Country Dodge 31015 Grand River	Tamaroff Buick-Nissan-Honda 28585 Telegraph	Fox Hills Chrysler Plymouth 111 W. Ann Arbor Rd
ROCHESTER	TAMAROFF	HINES PARK
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Bill Fox Jeep Eagle 755 S. Rochester Rd	Fischer Mazda 17980 Maplelawn	Lou LaRiche Chevrolet-Subaru 10870 Plymouth Rd
Meadowbrook Dodge 1001 N. Main	WEST BLOOMFIELD	SUNSHINE
Pat Moran Olds & GMC 3277 S. Rochester Rd	Jack Cautley Chevrolet-GEO 7020 Orchard Lake Rd	Sunshine Honda 12005 Ann Arbor Rd
Shelton Pontiac Buick 855 S. Rochester	GARDEN CITY	WAYNE
ROCHESTER HILLS	Crestwood Dodge 32850 Ford Rd	Jack Demmer Ford 37000 Michigan Ave
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